

# Die Welt ist unser Spielfeld - Location Based Games

Sot P. - [zugangerschwnis@yahoo.com](mailto:zugangerschwnis@yahoo.com)

#gpn12



# Die Welt ist unser Spielfeld - Location Based Games

Sot P. - [zugangswerschwernis@yahoo.com](mailto:zugangswerschwernis@yahoo.com)

#gpn12

**:-| Begriffe**

**:-) Fallbeispiele**

**:-( Herausforderungen**

**:-! LBG entwickeln**

**:-| Begriffe**

**Mixed-Reality Games**

**Real World Games**

**Pervasive Games**

**Street Games / Urban Games**

**Site Specific Games**

**Location Based Games**

**Locative Play**

**Augmented Reality Games**

**Alternate Reality Games**

**Transmedia Storytelling**

### **Mixed-Reality Games**

**Spiele die Elemente aus der materiellen und virtuellen Welt kombinieren**

### **Real World Games**

**synonym zu Mixed-Reality Games**

### **Pervasive Games**

**Spiele, die die Lebenswirklichkeit durchdringen (im Ggs. zur klassischen Spielsituation, Huizingas „magic circle“: in der Spielrunde, am Brett oder am Computer)**

### **Street Games / Urban Games**

**Spiele, die im Stadtraum gespielt werden (mit oder ohne Einsatz von Technologie)**

### **Site Specific Games**

**Spiele, die für einen ganz bestimmten Ort konzipiert werden**

## **Location Based Games (LBG)**

**Spiele, die die geografische Position der Spieler als Input verwenden**

### **Locative Play**

**synonym zu LBG**

### **Augmented Reality Games**

**Spiele die virtuelle Inhalte in den Wahrnehmungsstrom des Spielers einblenden**

### **Alternate Reality Games (ARG)**

**Spiele, die Fiktion und Realität vermischen und ihre Spiel-Eigenschaft - zumindest am Anfang - verleugnen (TINAG-Prinzip: "this is not a game").**

### **Transmedia Storytelling**

**medienübergreifendes Erzählen von Geschichten**

**:-) Fallbeispiele**



# CHECK-IN

FOURSQUARE (2009) ETC.

# Check-In

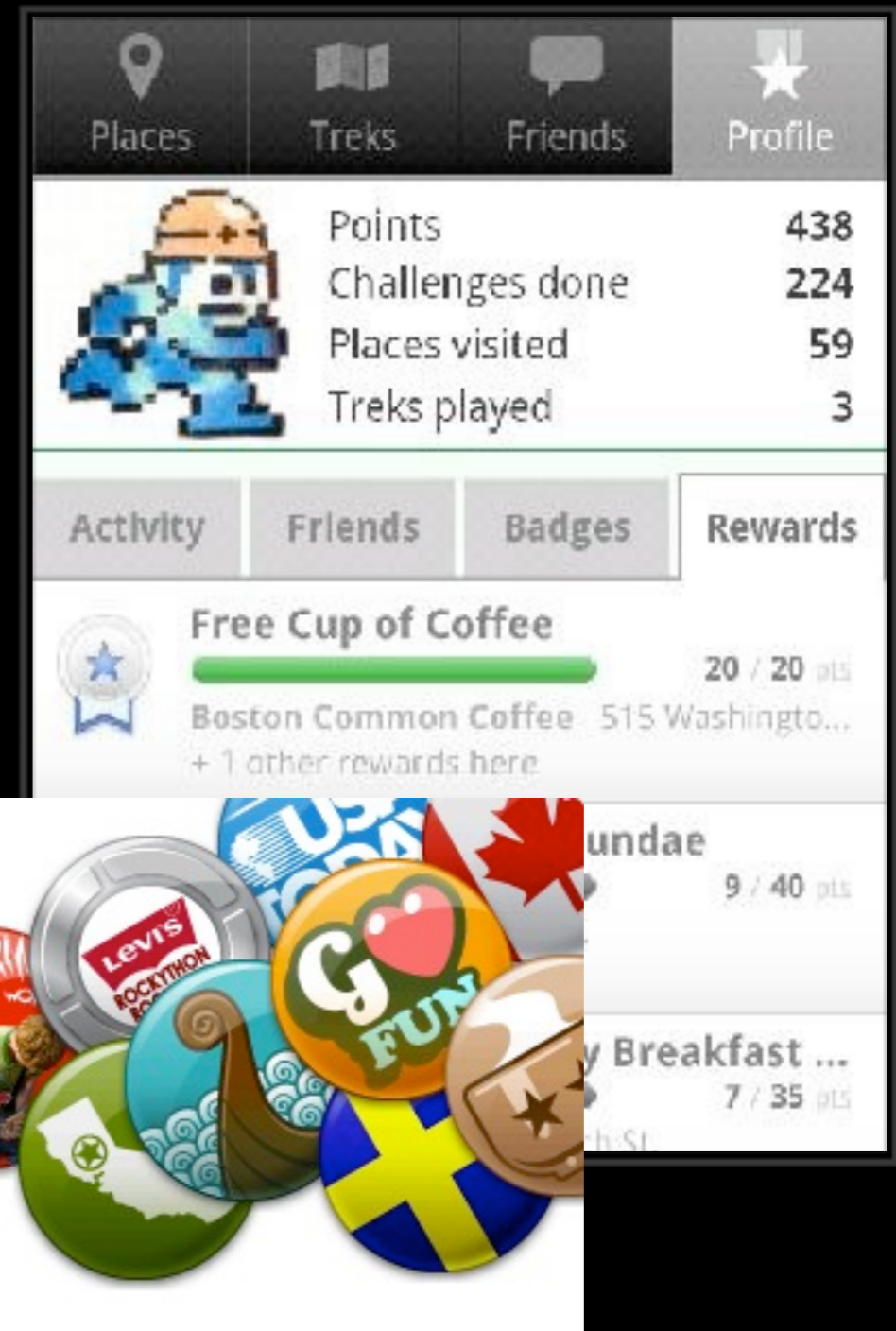
basale Interaktion

spielerische Form

Position und Mitteilung

Belohnungsmechanismus

Soziale („2.0“) Interaktion



# Moment!

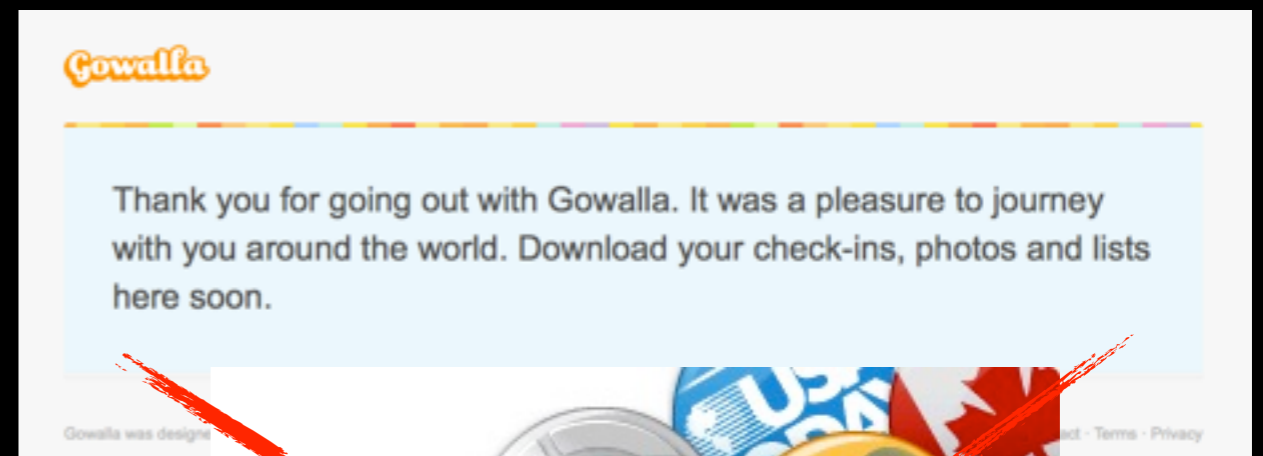
Das war doch eben Gowalla!

Gowalla?!?

~~Gowalla~~

Facebook...

Was ist mit den schönen Icons?  
na ja.



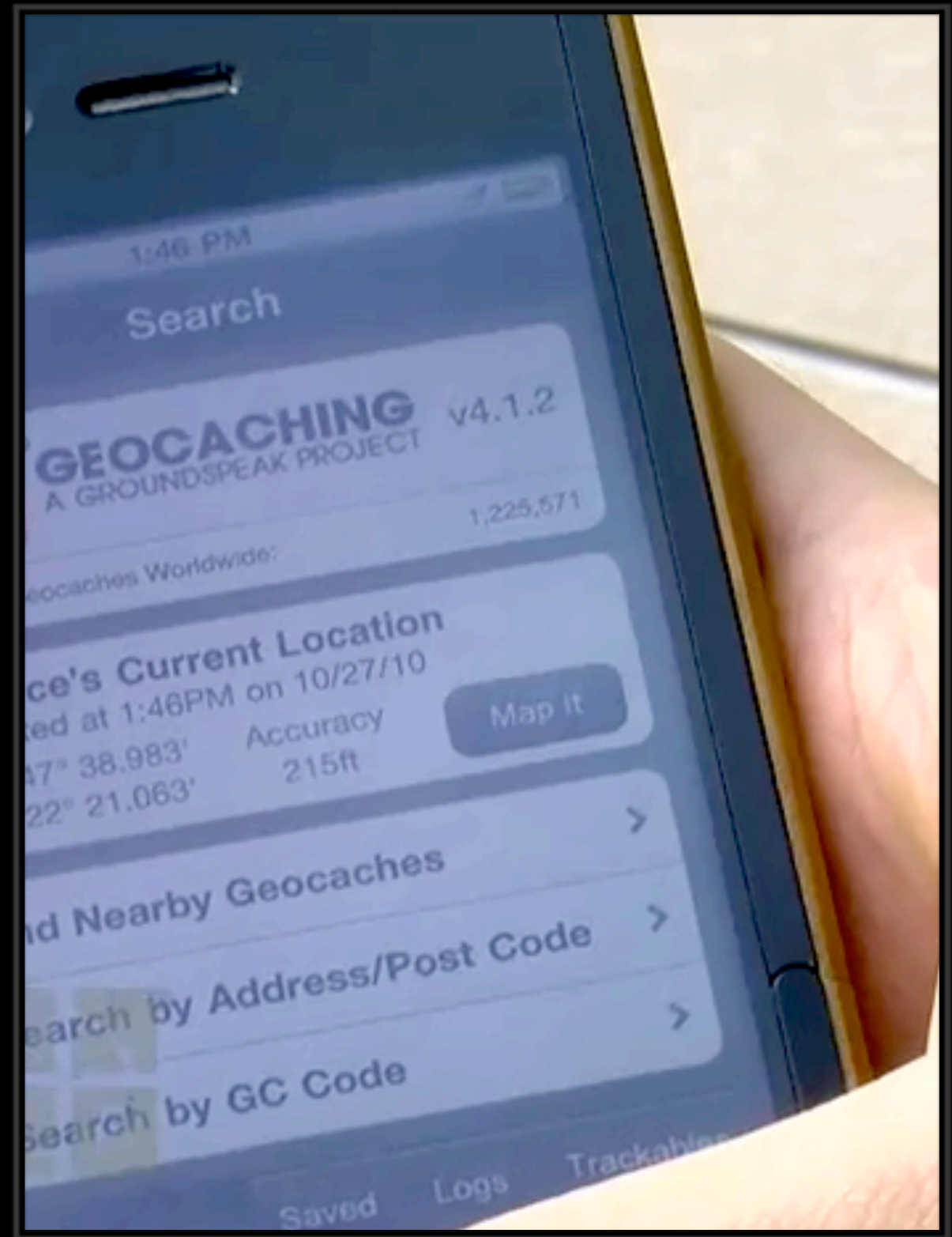


**FINDEN**

**GEOCACHING (2000)**

# Geocaching

„Textadventure“ für  
Location Based Games  
große Community  
Vorgänger: Letterboxing





# GEOCACHING ALS EVENT

GEOBOUND (2008)

# Geobound

GPS-Rallyes

Spezifische Spielvarianten

Events als Spielrahmen

Gruppenspiele





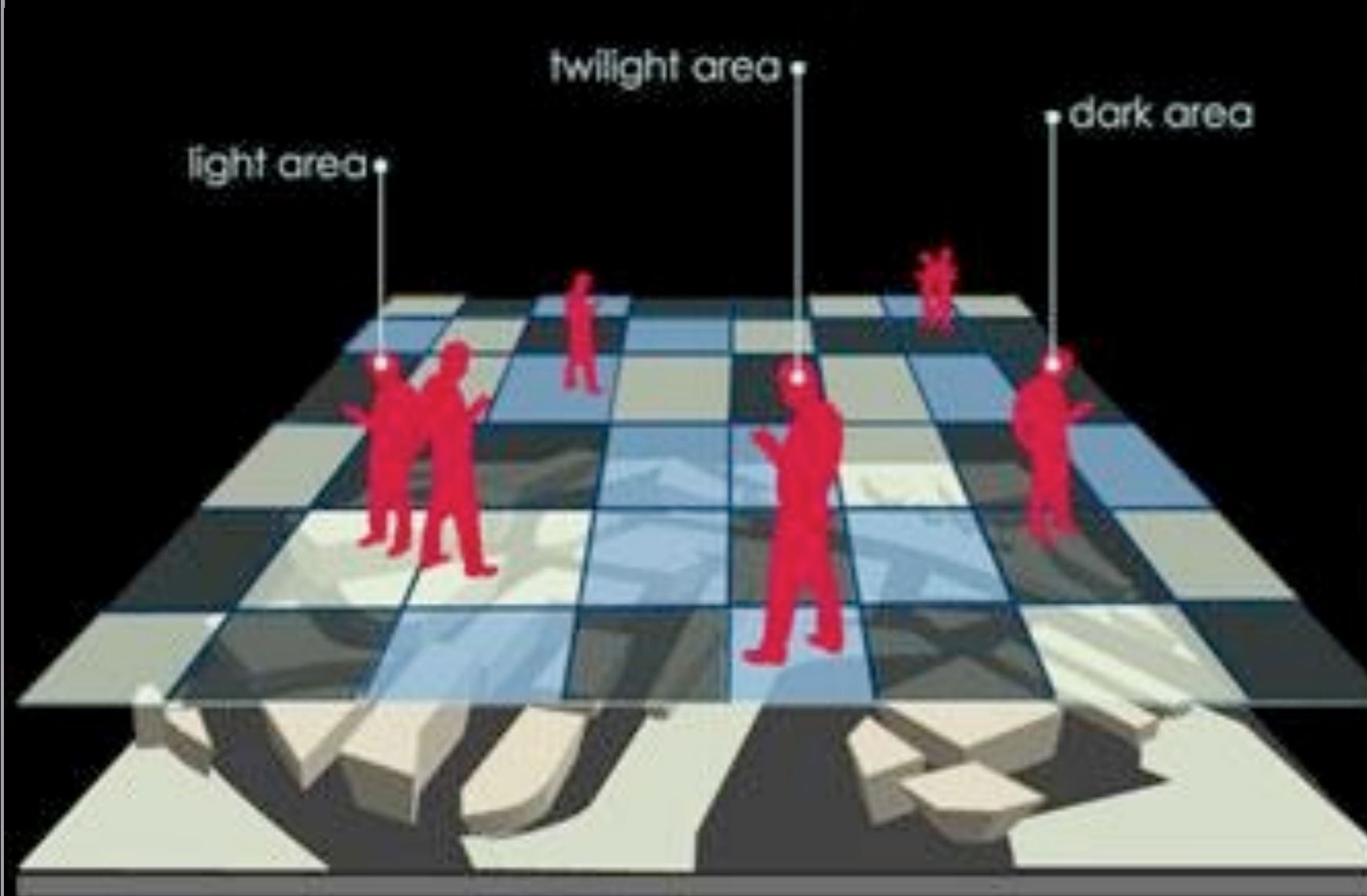
# VERFOLGEN

MISTER X MOBILE (2009), QEEVEE (T-LABS, UNIVERSITÄT BONN, RAVENSBURGER)

# Mister X Mobile

Umsetzung des Brettspiels  
„Scotland Yard“  
Asymmetrisches Spiel  
Action-orientiert





# RAUM AUSNUTZEN & KÄMPFEN

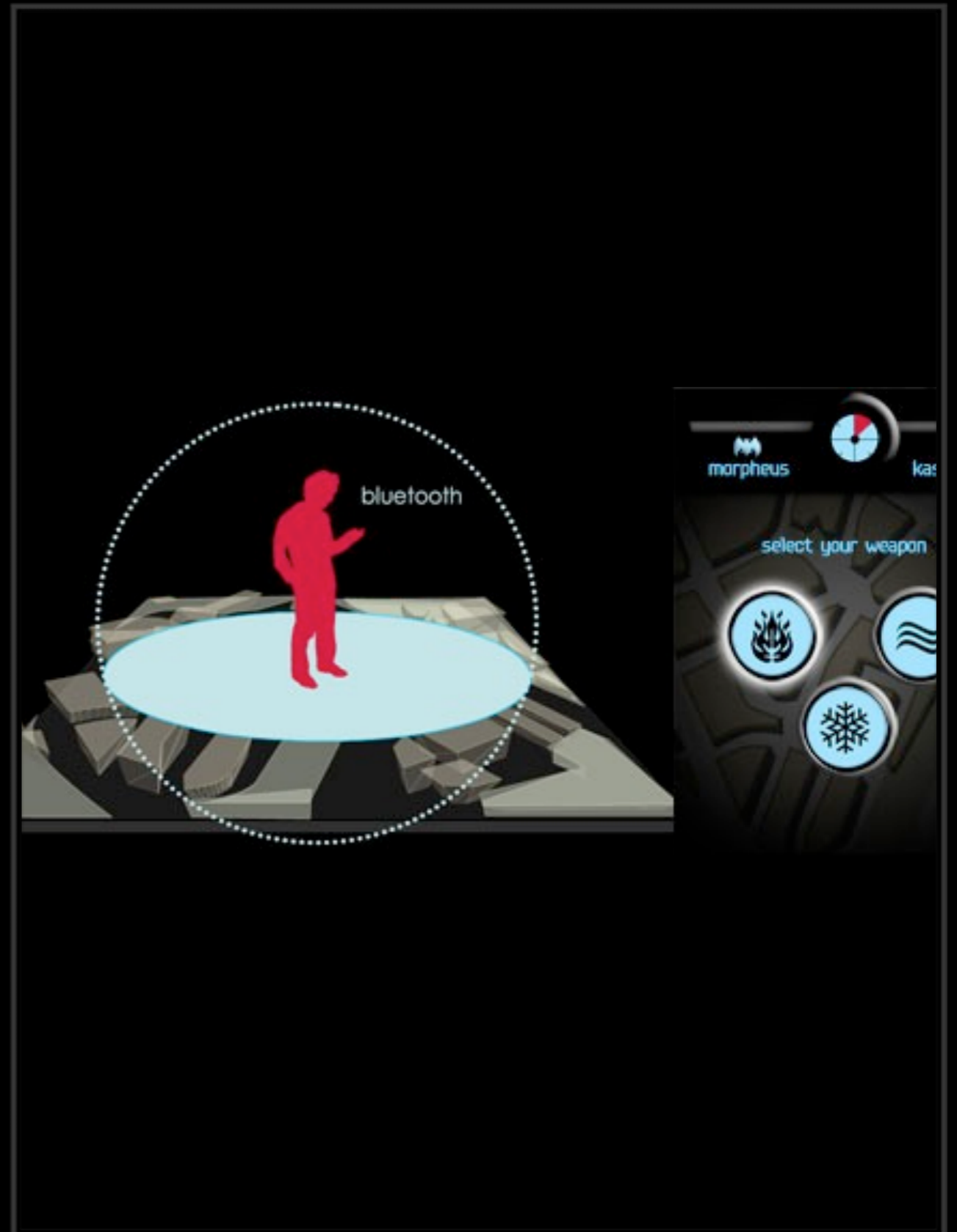
INSOMNIA (2007), GANGS OF BREMEN

# Insomnia

Rollen: Vampire / Menschen

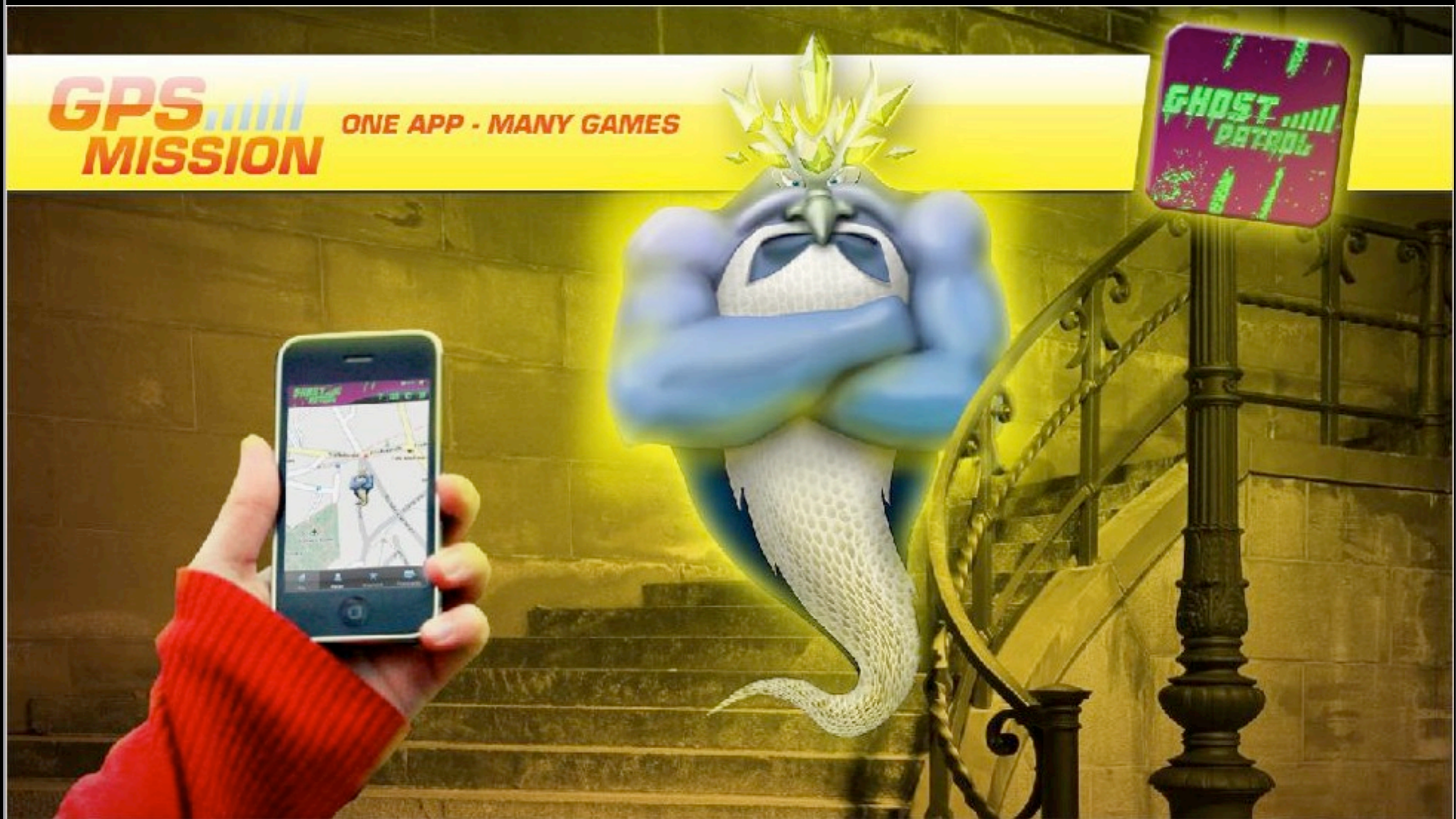
Spielfeld besitzt funktionale Zonen

Interaktion via Bluetooth



**GPS  
MISSION**

ONE APP - MANY GAMES



**SCHÄTZE SAMMELN**

GPS MISSION (2008), ORBSTER

# GPS Mission

Schätze sammeln

User Generated Content

Geschäftsmodell Freemium

Browsersgame Tie-In (Dark  
Orbit Ground Forces)





**JAGEN**

**CAN YOU SEE ME NOW? (2001), BLAST THEORY**

# Can You See Me Now?

**LBG-Meilenstein (2001)**

**Distanz und Nähe**

**Virtuelle und materielle  
Spielwelt**

**Kommunikation via CB-Funk**





# RÄTSELN

TIDY CITY (2008/2010), MICHAEL STRAEBIG / FRAUNHOFER FIT

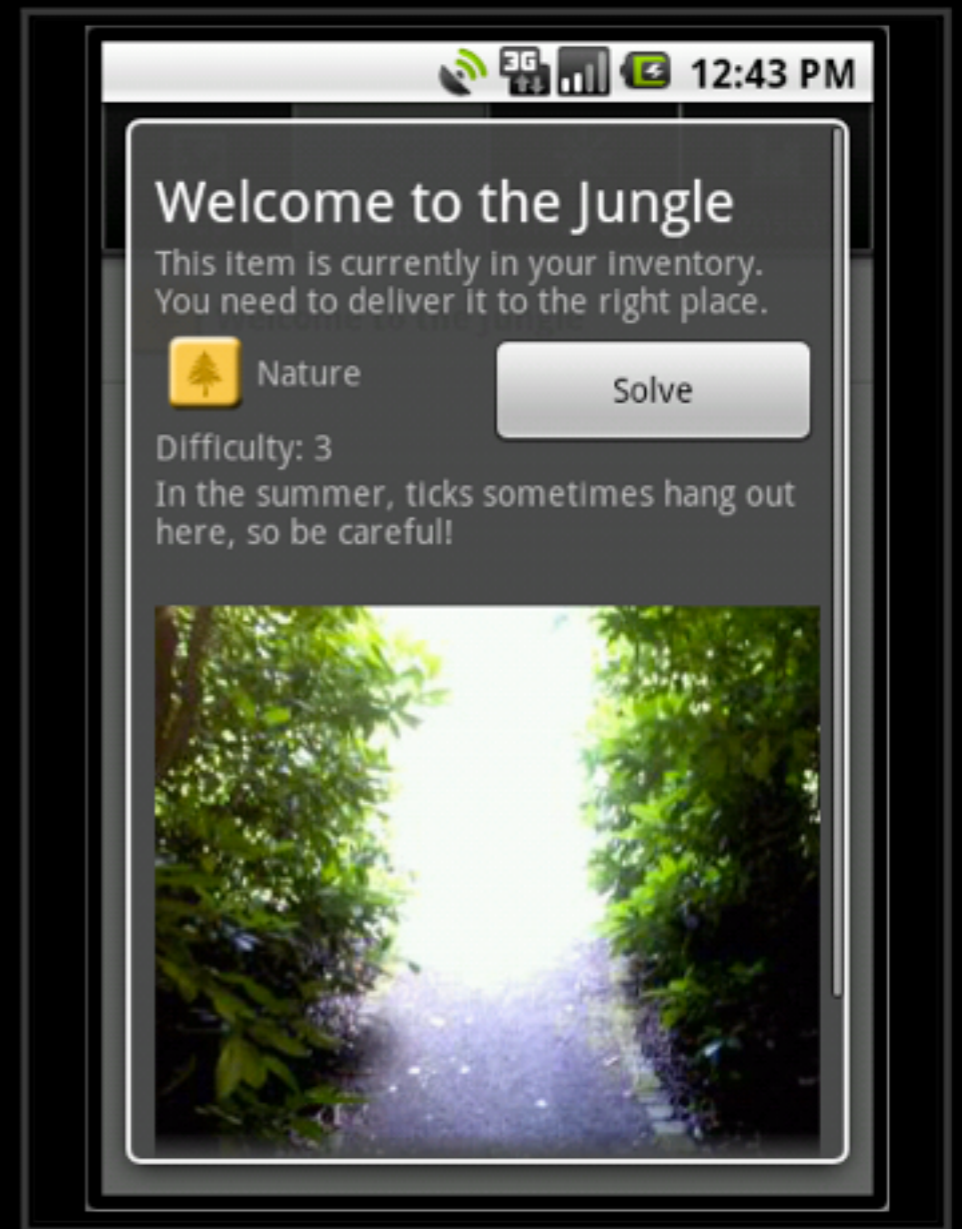
# Tidy City

Minimalistischer Spielmechanismus

Umgebung im Vordergrund

Autorensystem für Mixed-Reality

Spiele (Fraunhofer TOTEM)





# GEBIETE BEHERRSCHEN

PARALLEL KINGDOM (2009), PER BLUE

# Parallel Kingdom

MMO-LocationBased-RPG

Territorialprinzip

Freemium-Modell





# STÄDTE KAUFEN

MY TOWN (2009), BOOYAH

# My Town

Social-Game

Prinzip Monopoly





# DIE STRASSE BESPIELEN

LOVE AT FIRST SIGHT (2011), INVISIBLE PLAYGROUND

# Street Games

## Festivals

You Are GO!/Playpublik (Berlin)

Come Out & Play (New York)

Hide & Seek (London)

igFest (Bristol)

CC-lizensierte-Spiele:

[www.ludocity.org](http://www.ludocity.org)





# IMMOBILIEN HANDELN

IMMOPOLY (2012), KRAUTSOURCING UG

# Immopoly

Echtzeit-Daten einer  
Immobilienvermittlung  
Crowdsourcing-  
Entwicklungsmodell



# Triangler

*A massive collaborative geometric outdoor mobile interactive game*

TNO | Knowledge for business



Dr.ir. M. Oskar van Deventer

## FORMEN BILDEN

TRIangler (2006), TNO

# Triangler

Geometrisches Teamplay  
Echtzeit-Kommunikation  
„Wald und Wiese“  
Serious-Game Anspruch

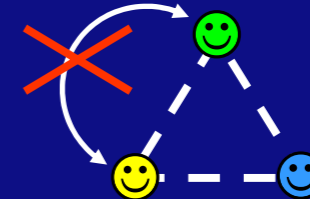
## Triangler: simple rules

1. Your team scores points when you form a 2000 meter equilateral Triangle with two of your team buddies. The score is the number of enemies that your Triangle encloses
2. You cannot make a Triangle with any of your buddies more than once per game
3. You cannot make a Triangle within 100 meters of any of your previous Triangle points

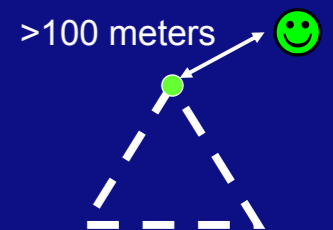
🌐 The Colored Team scores two points!



Rule 1



Rule 2



Rule 3





# BALL SPIELEN 2.0

URBAN DEFENDER (2009), ZUERCHER HOCHSCHULE DER KUNSTE

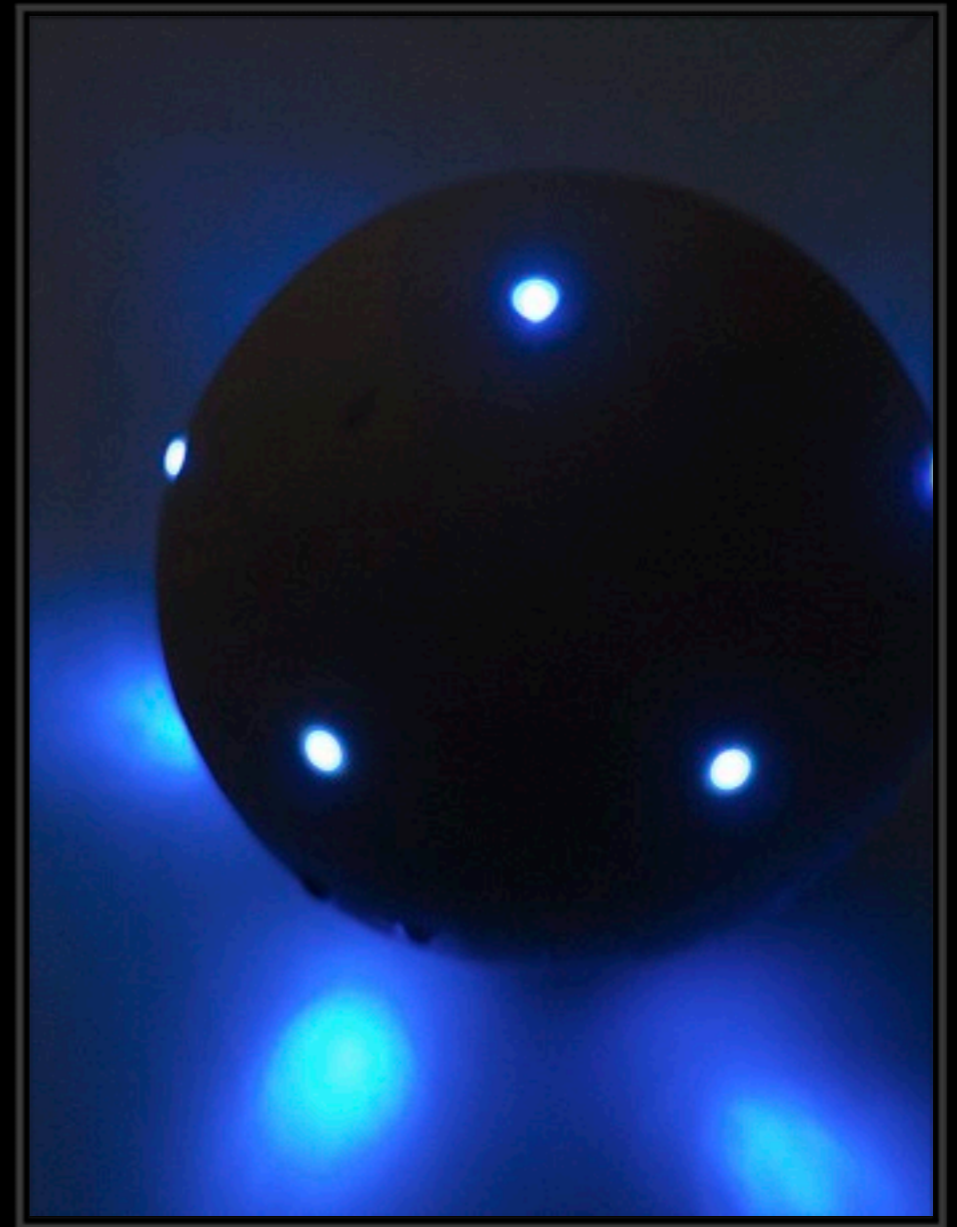
# Urban Defender

**Territorialprinzip**

**Stadtviertel**

**Ball als Spielzeug / Interface**

**Arduino, ZigBee, ...**



# LOCATION BASED AUDIO

RJDJ (2009)

# Rj-Dj

Plattform für Augmented Audio  
Geschwindigkeit, Ort, Zeit  
Audio-Szenen, Inception-App,  
Spiel Dimension





## AR-OUTDOOR-SPIELE

AR-QUAKE (2000), UNIVERSITY OF SOUTH AUSTRALIA

# AR-Outdoor Spiele

Technologiesprung durch  
Smartphones

Diverse Plattformen

(Layar, Wikitude, Junaio)





# INSPECTOR BERLIN TRIPTON

Murder Underground

Touch to start



By the way, I'm  
Dolly. What do  
you want?

We are police officers.

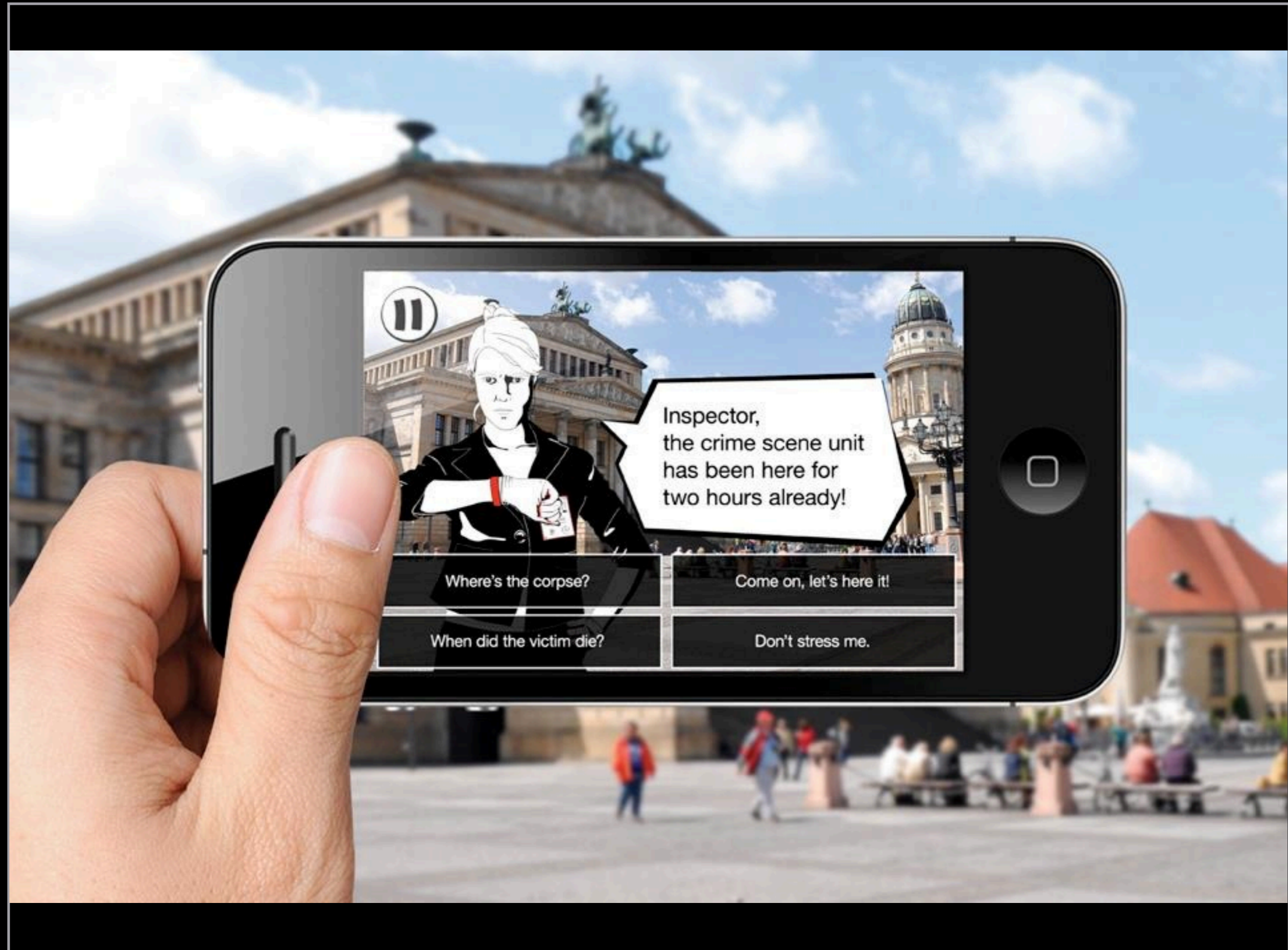
Have you got anything planned for this evening  
already?

What's your little dog called?

Do you know Tom Keller?

## MORDFALL LÖSEN

INSPECTOR TRIPTON (2012), SPRYLAB



# tripventure

[tripventure.net](http://tripventure.net)

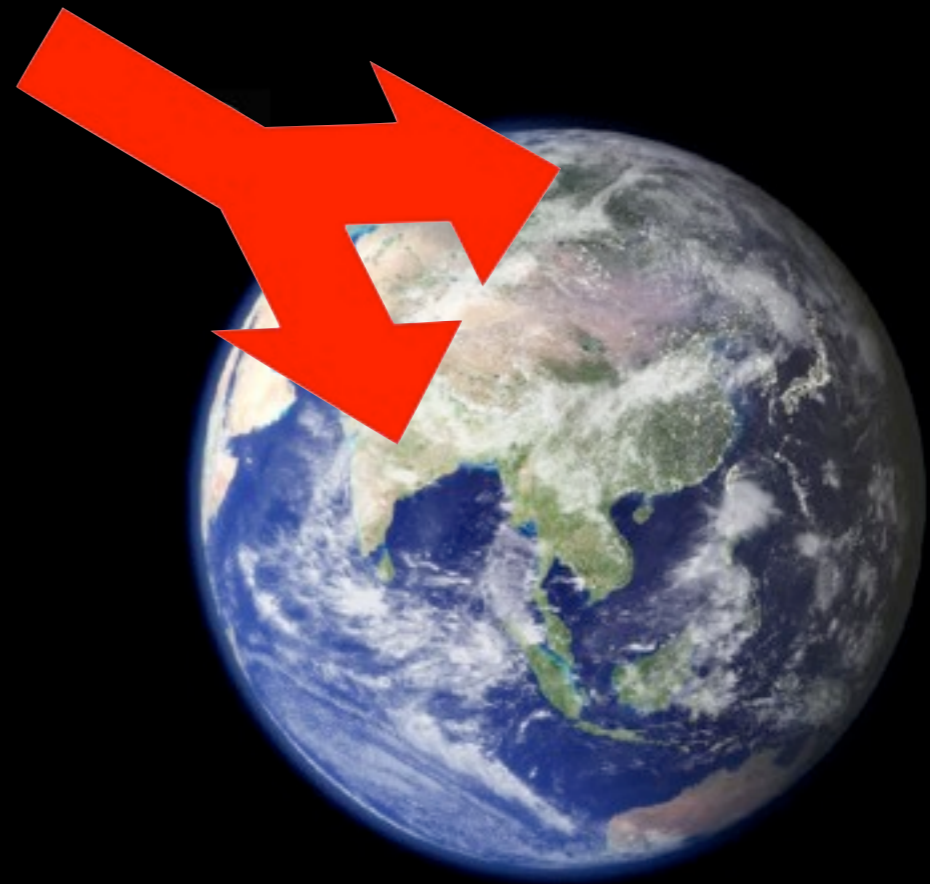
Plattform, Engine, Editor

LBG / Augmented Reality

Breites Spektrum



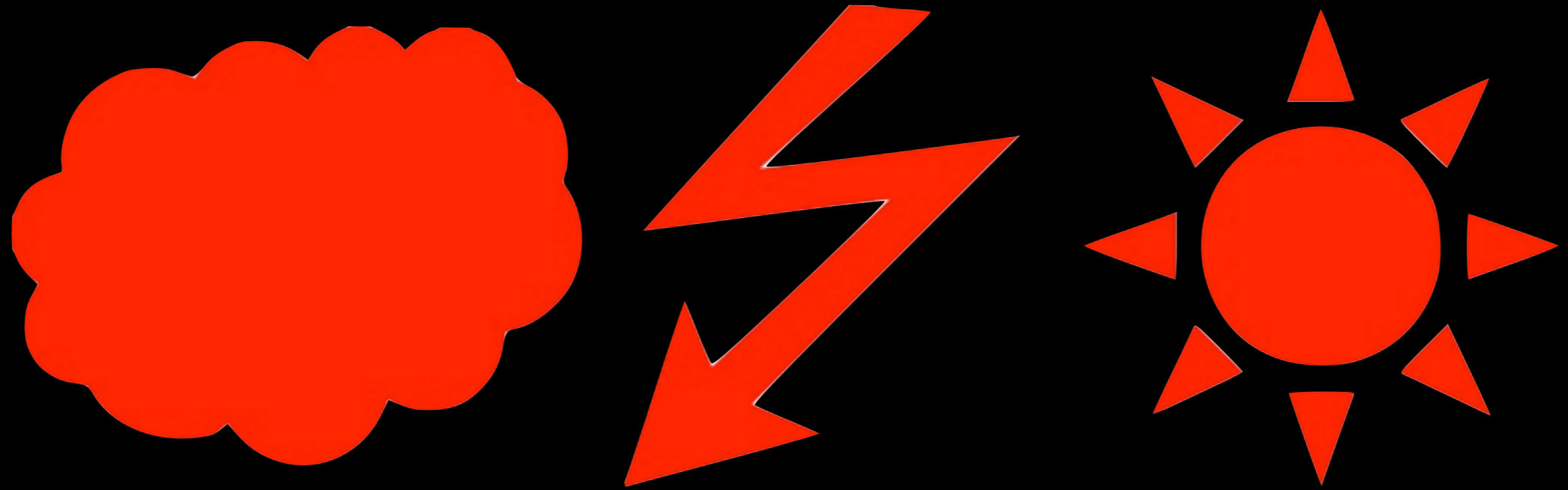
**:- ( Herausforderungen**



**„Location-Dilemma“**



**Erwartungen  
an die Spielsituation**

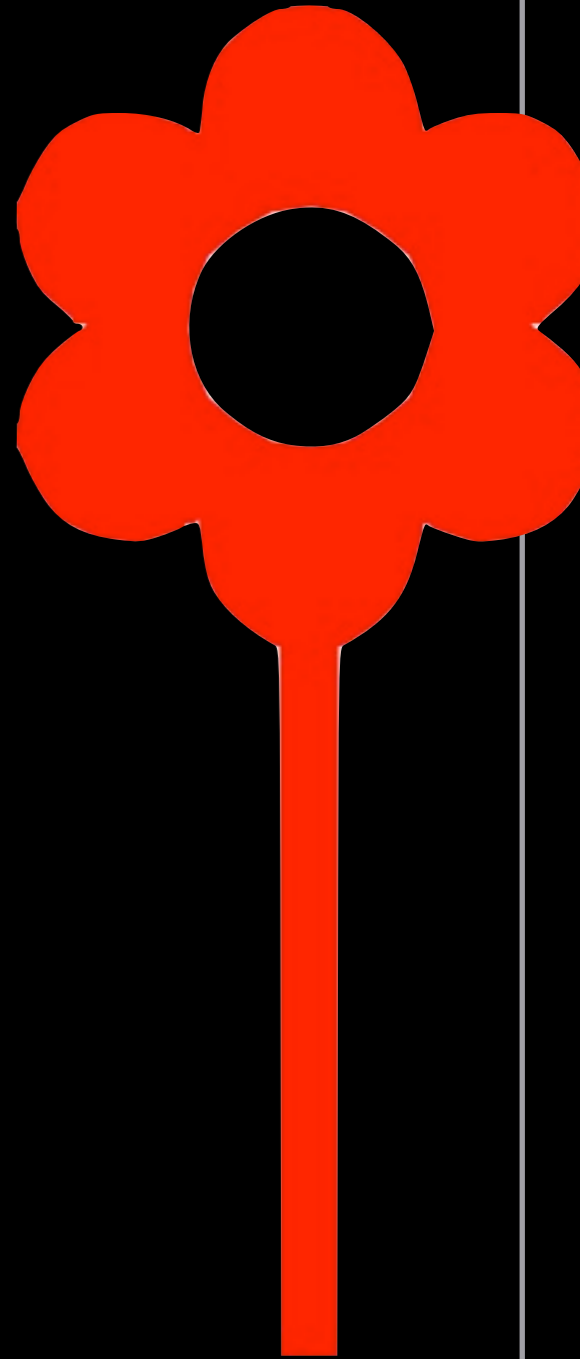


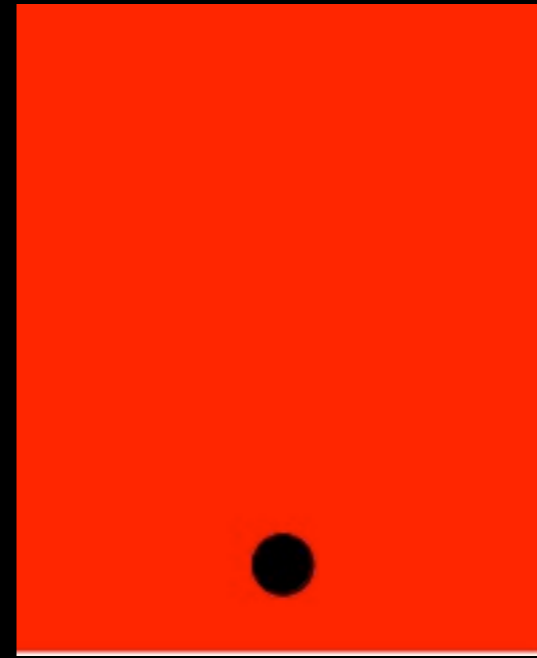
**Umwelteinflüsse**

A large, bright red sun with a circular face and ten triangular rays radiating outwards, set against a solid black background. The sun is positioned in the upper center of the frame.

**Umwelteinflüsse !**

# Umwelt-Auswirkungen





**Gerätevielfalt**

$\sigma$

**Sensor-Genauigkeit**



**Batterielaufzeit**



**MAMA WIR SIND  
MÜÜÜDEE!!!**

**Spieler-Laufzeit**

**Baustelle**



**Unvorhersagbarkeit**

**23.12.2012 VERSION 1.0**

**25.12.2012 VERSION 1.1 KRITSCHER BUG**

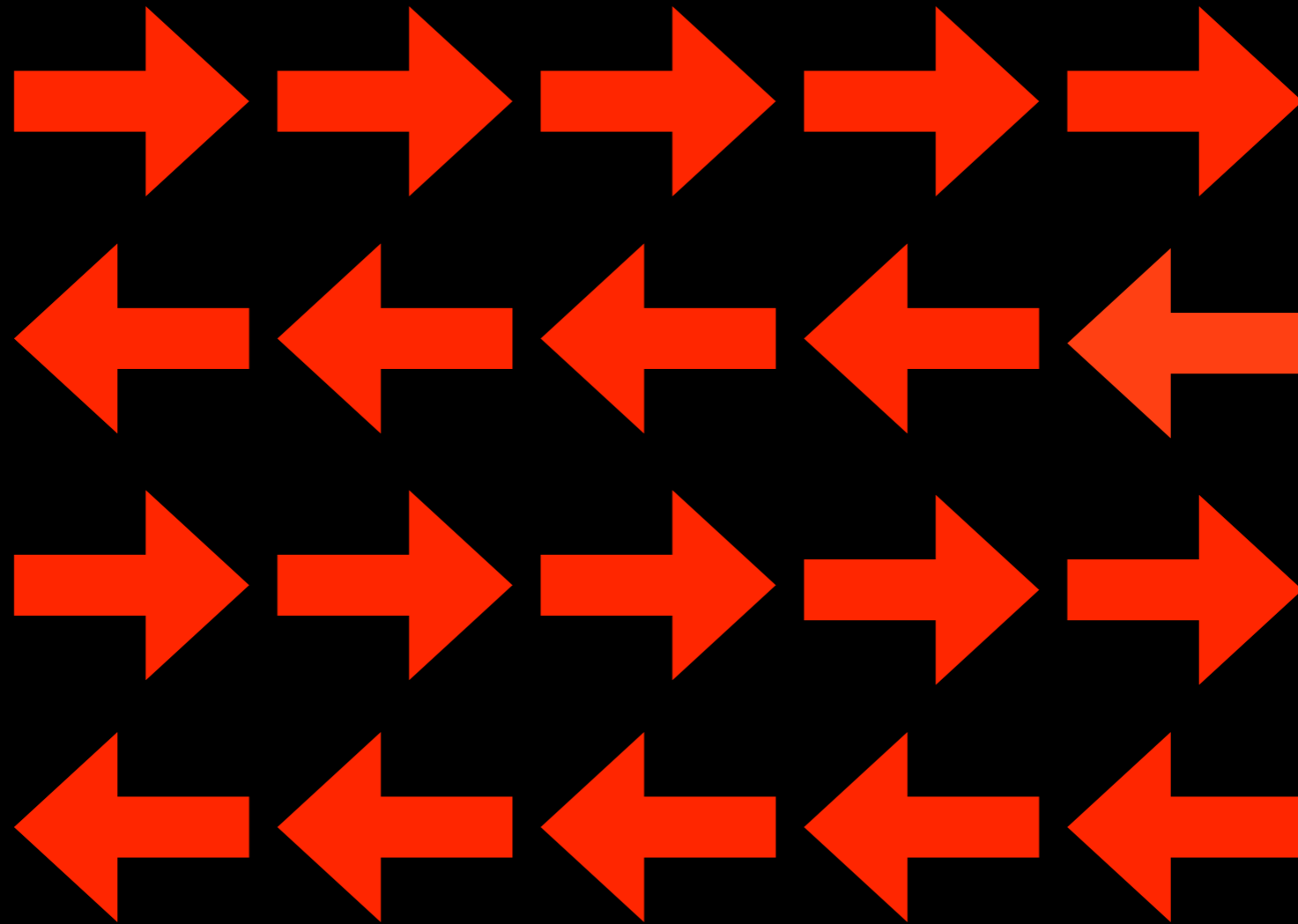
**03.02.2013 VERSION 1.2 MIN'R BUGS ;)**

**14.05.2013 VERSION 1.3 STARTET JETZT**

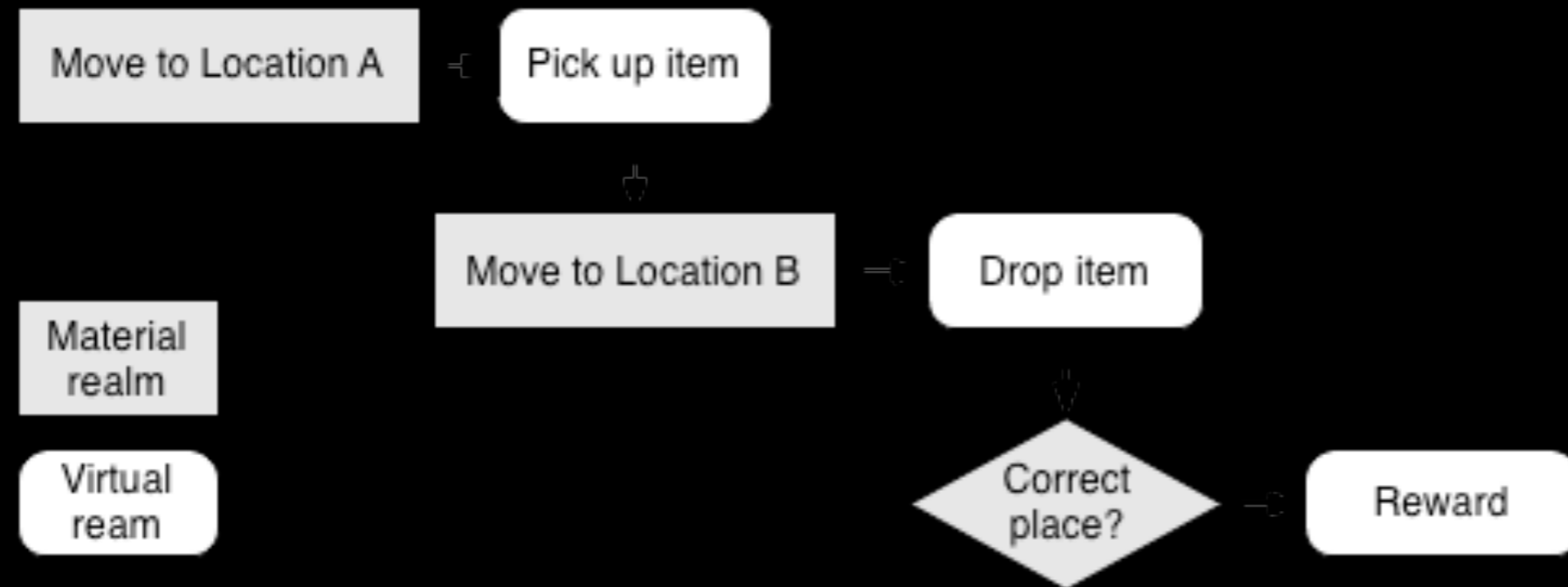
**07.01.2014 VERSION 2.0 LÄUFT STABIL :)**

**08.01.2014 LAUNCH TEIL 2**

**Event? Kein Patch!**



**Hoher Testaufwand**



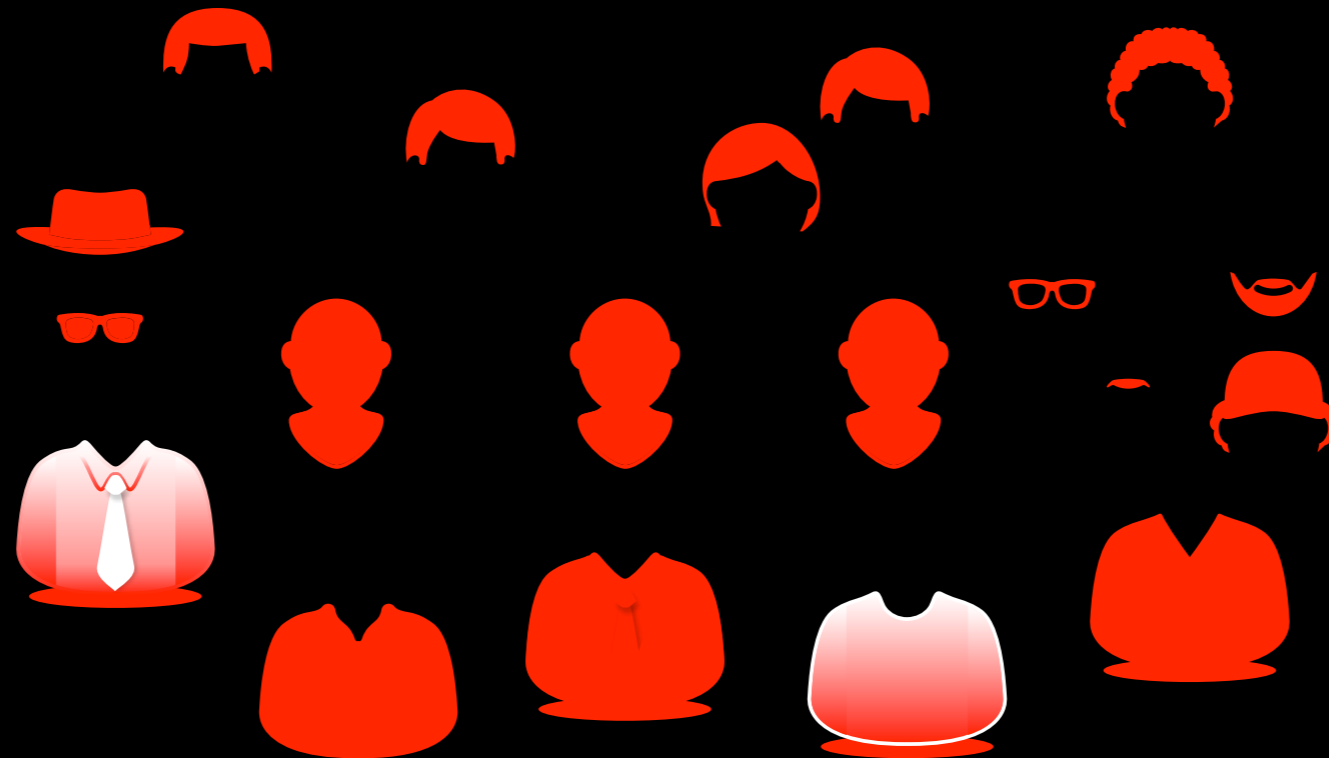
Tidy City core mechanism



# Kernmechanismus



**Immersion? Think again.**



**„Die“ Zielgruppe für LBG?**

**\$?**

**Ein Wort zum „M-Wort“.**

**1. Anspruch 2. Ansatz 3. Horizont**

**„Location-Dilemma“**

**Erwartungen an die Spielsituation**

**Umwelteinflüsse**

**Umwelt-Auswirkungen**

**Gerätevielfalt**

**Sensor-Genauigkeit**

**Batterielaufzeit**

**Spieler-Laufzeit**

**Unvorhersagbarkeit**

**Besondere Situation bei Events**

**Testaufwand**

**Kernmechanismus**

**Gefährdungsrisiko**

**Zielgruppe(n)?**

**Monetarisierung?**

**:-! LBG entwickeln**

**Was ist der Raum?**

**Verbindung Umgebung -  
Spielemente?**

**Was ist der Spielrahmen?**

**Wie viele Spieler? Zielgruppe?**

**Interaktion / Kommunikation?**

**Idee / Genre / Mechanik / Story**

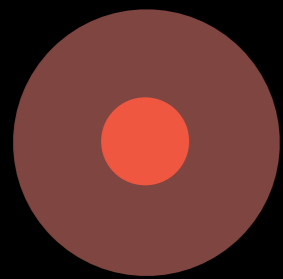
**Wie hoch ist die  
Ortsgenauigkeit?  
Location Provider?  
Internetverbindung?  
Vernetzung?  
(Prototyp-) Plattform?**

**Prototyp bauen !**

**Minimalversion  
programmieren.**

**Rausgehen, Testen.**

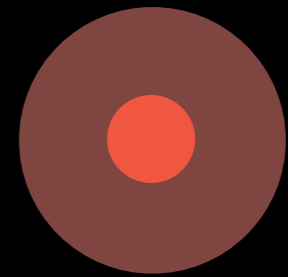
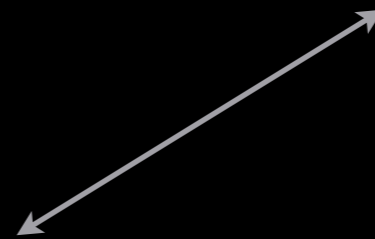
**Iterieren...**



POI

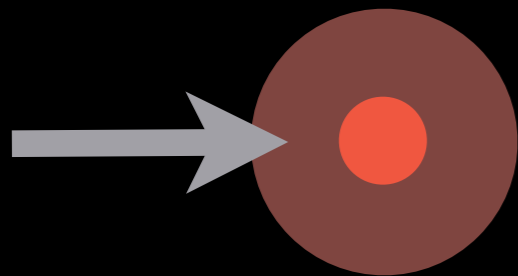


SPIELER

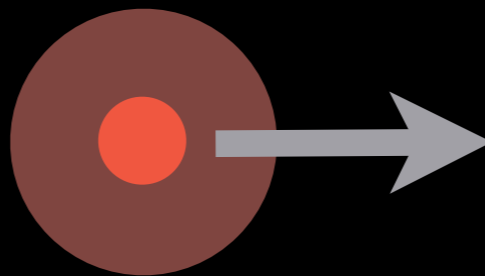


ABSTAND

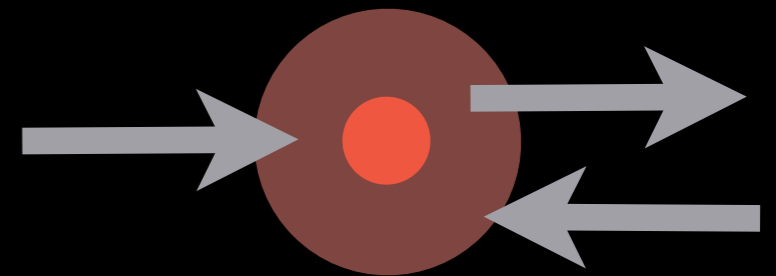
# Basis-Interaktionen



EINTRITT



AUSTRITT



WIEDEREINTRITT

**Implementierung,  
Beispiel früher:**

[HKEY\_LOCAL\_MACHINE\System\CurrentControlSet\GPS Intermediate Driver\Multiplexer\ActiveDevice]

On the **Hardware** tab, select the COM port your GPS receiver is configured to use from the GPS Hardware Port drop-down list.

“GPS Hardwareanschluss:” COM 5, 4800

[HKEY\_LOCAL\_MACHINE\System\CurrentControlSet\GPS Intermediate Driver\Drivers\Control Panel Configured Device]

On the **Access** tab, make sure that the Manage GPS Automatically checkbox is checked.

Devices running Windows Mobile 6 Professional include the External GPS item in the Settings panel. Devices running Windows Mobile 6 Standard do not include this item. However, the Windows Mobile 6 Standard SDK includes an application, called Settings.exe, that allows you to configure the GPS Intermediate Driver. The default installation location for this application is C:\Program Files\Windows Mobile 6 SDK\Tools\GPS. Copy this application to your device using ActiveSync, then click the application's icon to launch the program.

**OUCH!**

### **GAPI is obsolete**

The Game API (GAPI) has been deprecated, and should not be used for new projects. Use DirectDraw and Direct3D Mobile APIs instead.

**Implementierung,  
Beispiel heute:**

```
package bla.fasel.basiclocation;

import android.app.Activity;
import android.location.Criteria;
import android.location.Location;
import android.location.LocationListener;
import android.location.LocationManager;
import android.os.Bundle;
import android.util.Log;

public class LocationActivity extends Activity implements
    LocationListener {

    private static final String TAG = "MINIMAL_LOCATION";

    String mLocationProvider;
    LocationManager mLocationManager;

    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.main);

        mLocationManager = (LocationManager) getSystemService(LOCATION_SERVICE);

        boolean enabledOnly = true;
        Criteria criteria = new Criteria();
        criteria.setAltitudeRequired(false);
        criteria.setCostAllowed(false);           // !
        criteria.setSpeedRequired(false);
        criteria.setAccuracy(Criteria.ACCURACY_FINE);
        criteria.setPowerRequirement(Criteria.NO_REQUIREMENT);

        mLocationProvider = mLocationManager.getBestProvider(criteria, enabledOnly);
        Log.d(TAG, "Location Provider: " + mLocationProvider);
    }
}
```

```
@Override
protected void onResume() {
    mLocationManager.requestLocationUpdates(mLocationProvider, 1000, 0, this);
    super.onResume();
}

@Override
protected void onPause() {
    // keep location updates active in paused state ...
    super.onPause();
}

@Override
protected void onStop() {
    // ... but not in stopped state
    mLocationManager.removeUpdates(this);
    super.onStop();
}

@Override
public void onLocationChanged(Location loc) {
    Log.d(TAG, "Location: " + loc.getLatitude() + ", " + loc.getLongitude());
}

@Override
public void onProviderDisabled(String provider) {
    Log.d(TAG, "Provider disabled " + provider);
}

@Override
public void onProviderEnabled(String provider) {
    Log.d(TAG, "Provider enabled " + provider);
}

@Override
public void onStatusChanged(String provider, int status, Bundle extras) {
    Log.d(TAG, "Status changed " + provider + ", " + status);
}
}
```

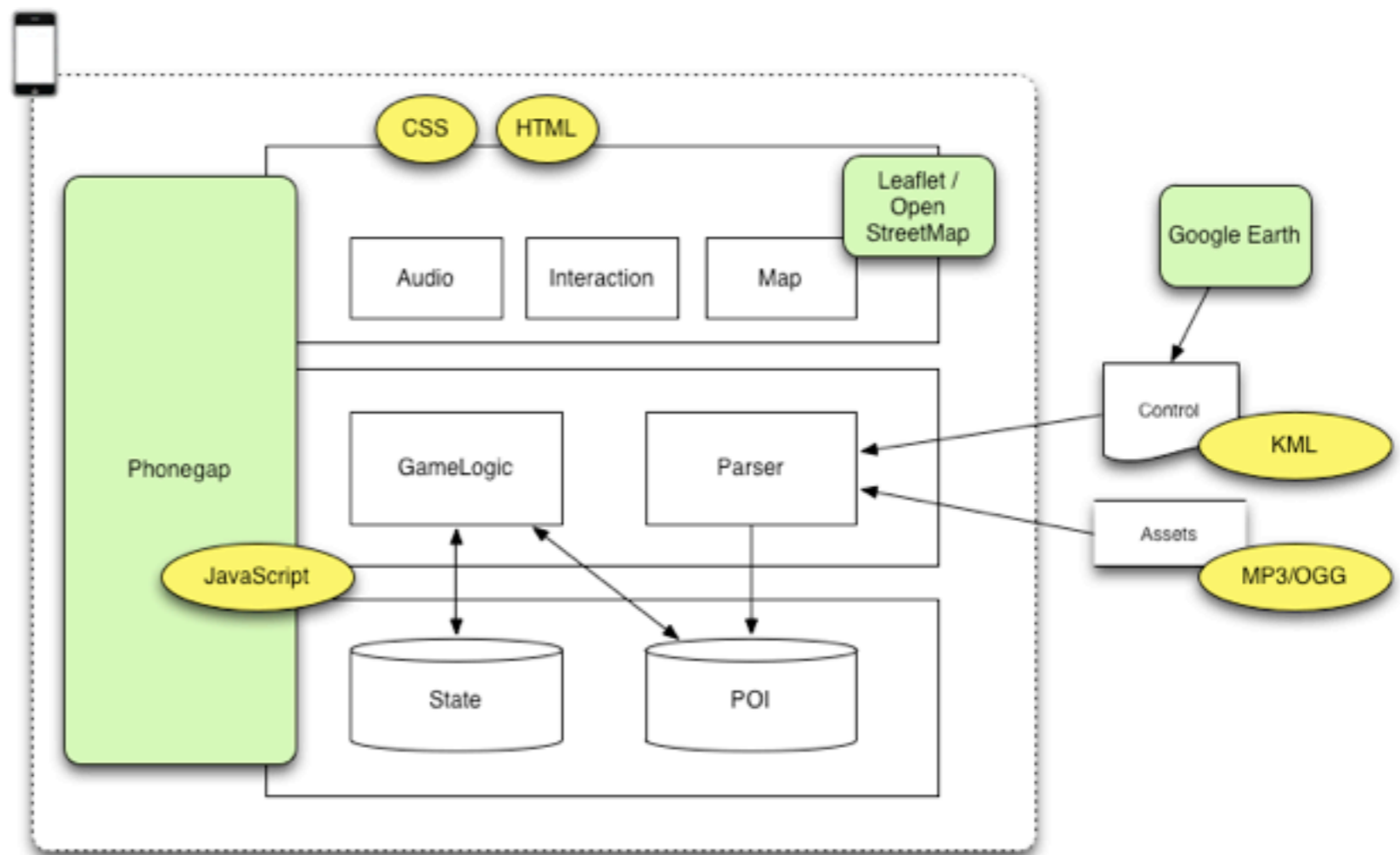


# **Game Engine / Content Pipeline**

# 1.

## LocA

### M. Straeubig

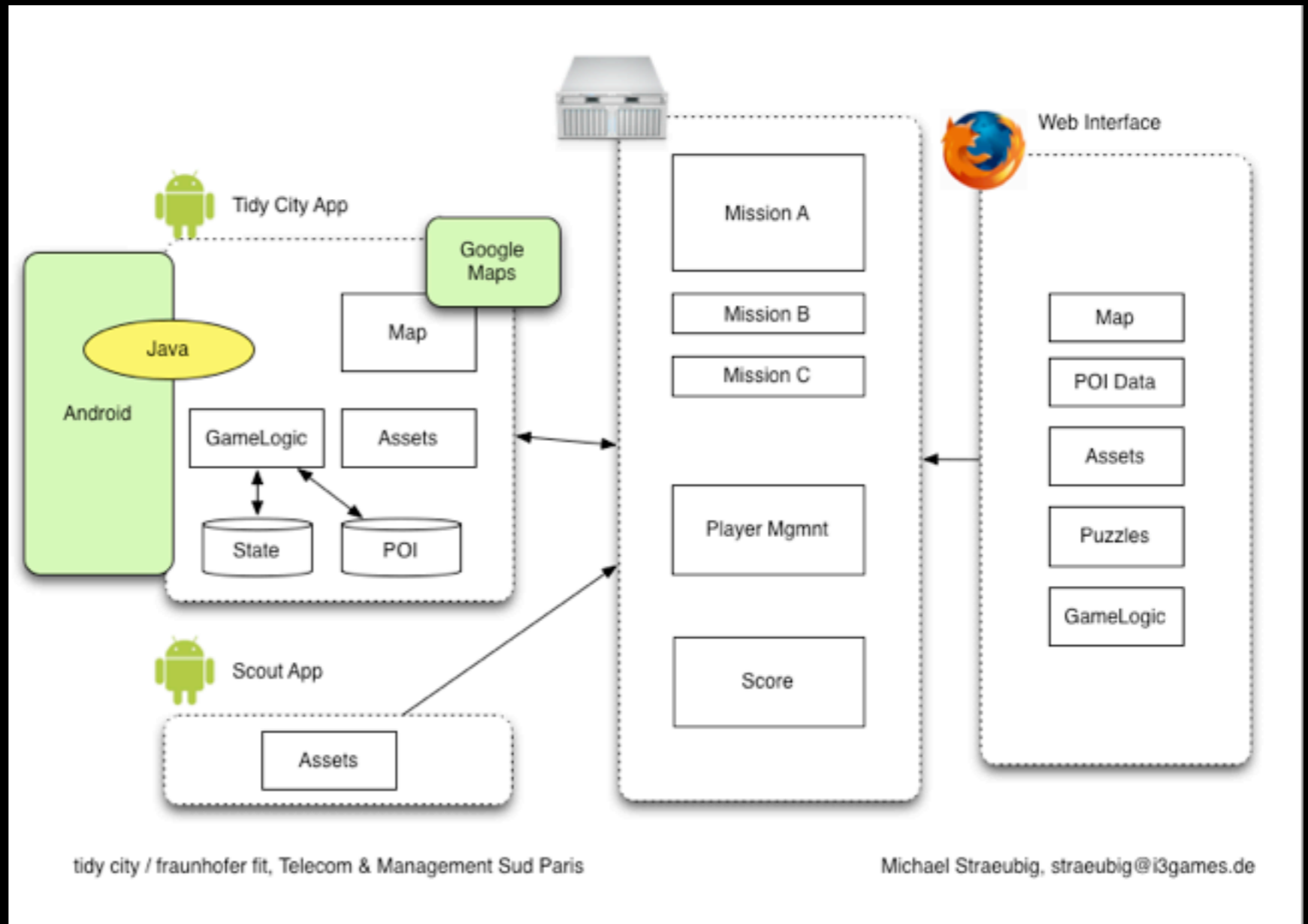


LocA, Michael Straeubig


Michael Straeubig, [straeubig@i3games.de](mailto:straeubig@i3games.de)

# 2.

## Tidy City Fraunhofer FIT Telecom & Management SudParis



Tidy City – Edit Mission



[My Missions](#)
[All Missions](#)
[First Steps](#)
[The Game](#)
[Scout](#)
[Forum](#)
[About](#)

Current user: i3games
 [Profile](#)
[Log out](#)

English

## You are HAU!

Some items near the HAU2 have been dislocated. Tidy up this area by picking them up and bringing them back to their proper places. There is no prescribed sequence, no need to hurry. Play at your own pace. - This Tidy City mission was created for the "You Are Go!" International Street Games Festival in Berlin. Everything is reachable by foot from the Hebbel Theatre at the Hallesches Ufer....

Language: English

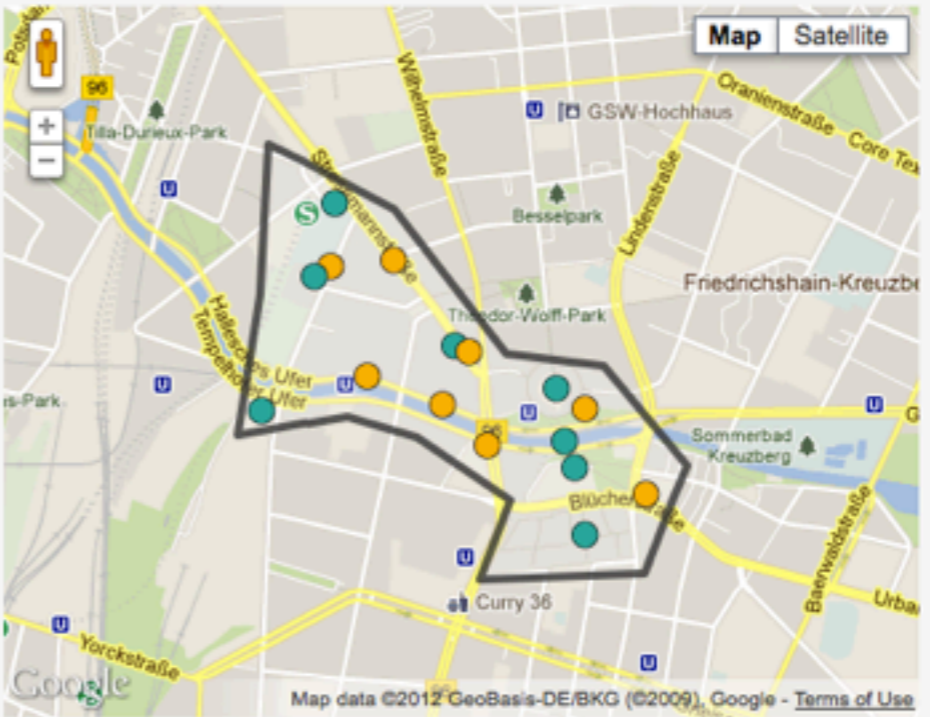
**Publish your mission**





Edit

Test

Play

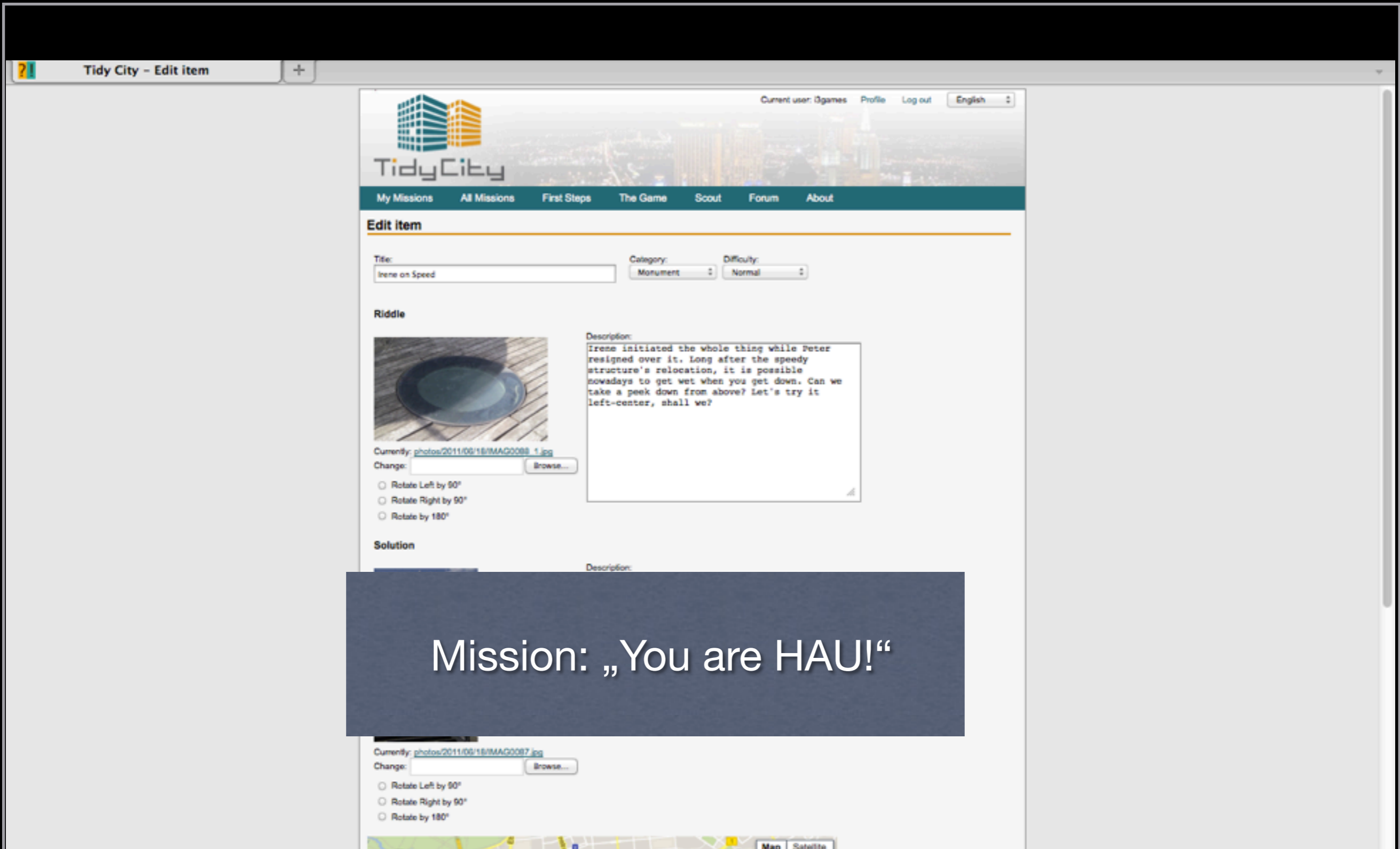
Info: In this mode your mission is available in Tidy City for everybody. You cannot edit it in this state. If you have to change something you need to set the mission back to edit mode.



Name	Category	Difficulty	Riddle	Solution
Centric but Headless	Monument	Easy	 Relax .. find the center .. find your center .. or you might get decapitated by this critters over...	 This is the "headless" statue at the center of the Mehringplatz, a round plaza ("Rondell") in...
Walk on Road, hm?	Building	Difficult	 "Walk on road, hm? Walk left side, safe. Walk right side, safe. Walk middle, sooner or later."...	 This spot is on a bridge between Gitschiner Strasse (left side) and Waterloo Ufer (right). Actually...

# TIDY CITY WEB-EDITOR

## MISSIONS-MANAGEMENT

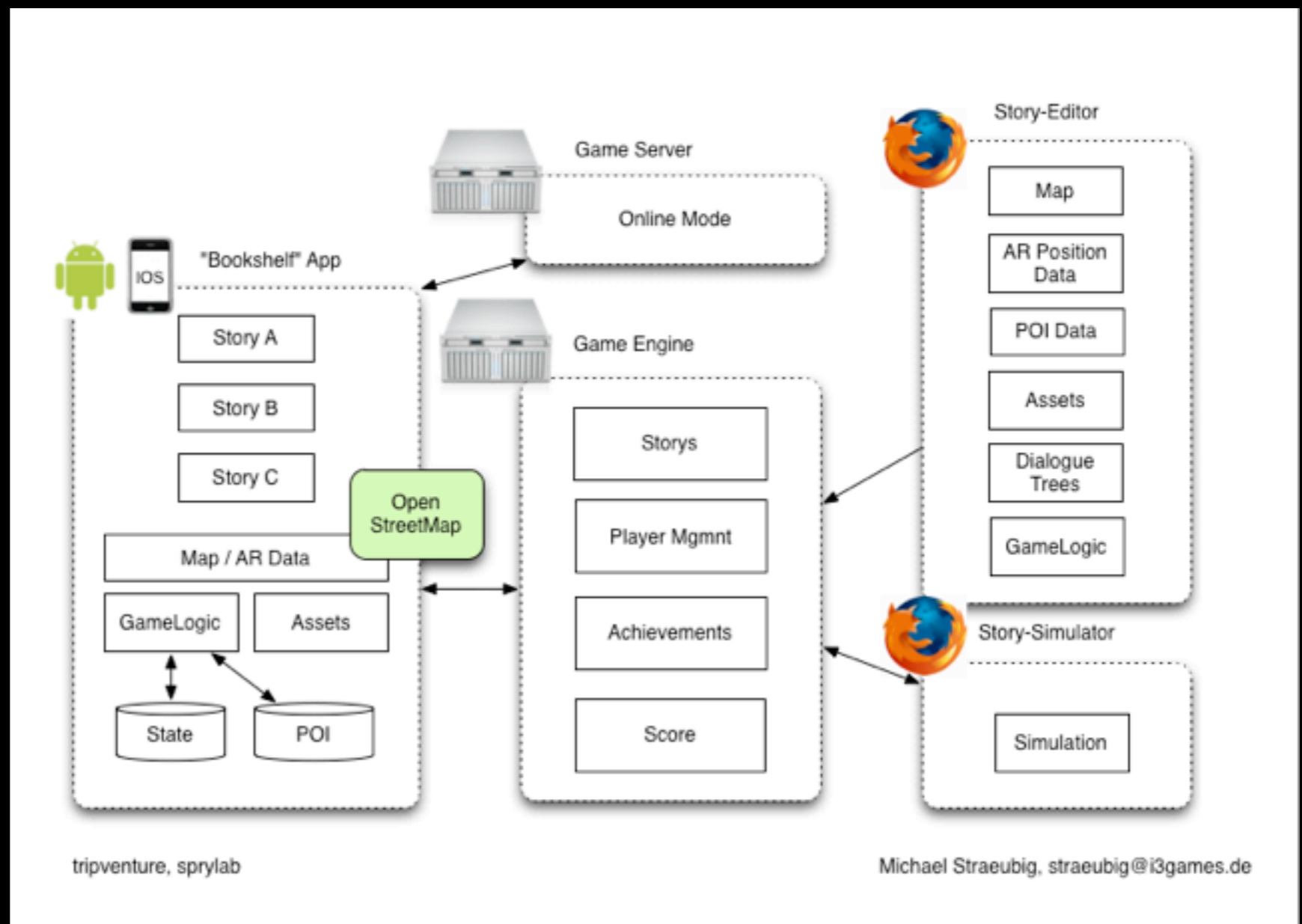


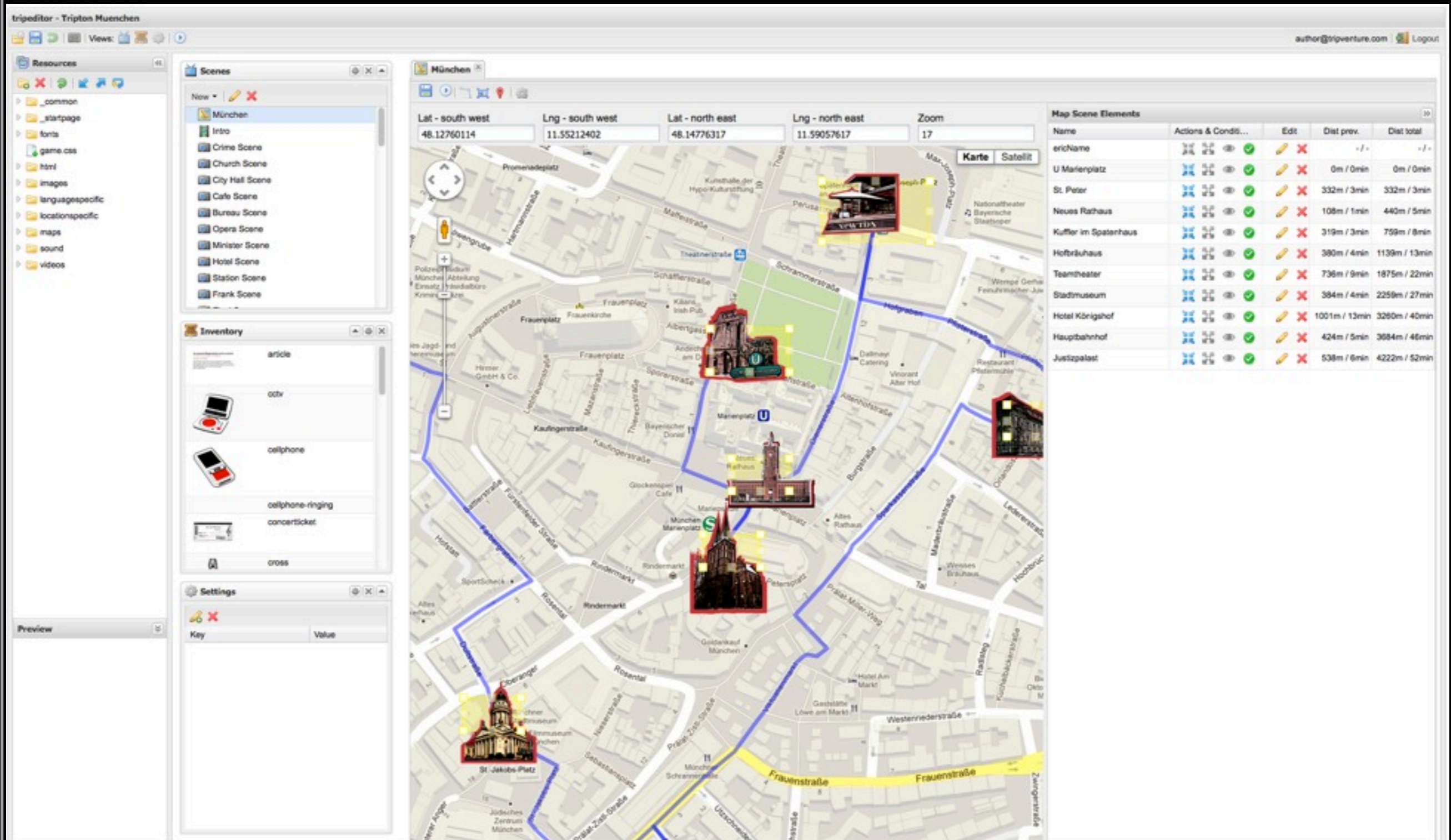
Mission: „You are HAU!“

**TIDY CITY WEB-EDITOR**  
RÄTSEL EDITOR

# 3.

tripventure  
tripengine,  
sprylab





# TRIPVENTURE TRIPEDITOR

## POI MANAGEMENT

tripeditor - Tripton Muenchen

author@tripventure.com Logout

Resources

- \_common
- \_startpage
- fonts
- game.css
- html
- images
- languagespecific
- locationspecific
- maps
- sound
- videos
- octv.mp4
- hand\_mayor.mp4
- hand\_minister.mp4
- hand\_olowska.mp4
- hand\_priest.mp4
- hand\_talentino.mp4
- intermediate.mp4
- intro.mp4
- outro.mp4

Scenes

- München
- Intro
- Crime Scene
- Church Scene
- City Hall Scene
- Cafe Scene
- Bureau Scene
- Opera Scene

Info

Crime Scene

München

Lat - south west: 48.12760114, Lng - south west: 11.55212402, Lat - north east: 48.14776317, Lng - north east: 11.59057617, Zoom: 17

Map scene element

Name: St. Peter

Images on map: ☒ Active, ☒ Inactive

Activation area: ☒ Active

Lat - south west: 48.13590596, Lng - south west: 11.57444554, Lat - north east: 48.1367, Lng - north east: 11.5766081

OK Cancel

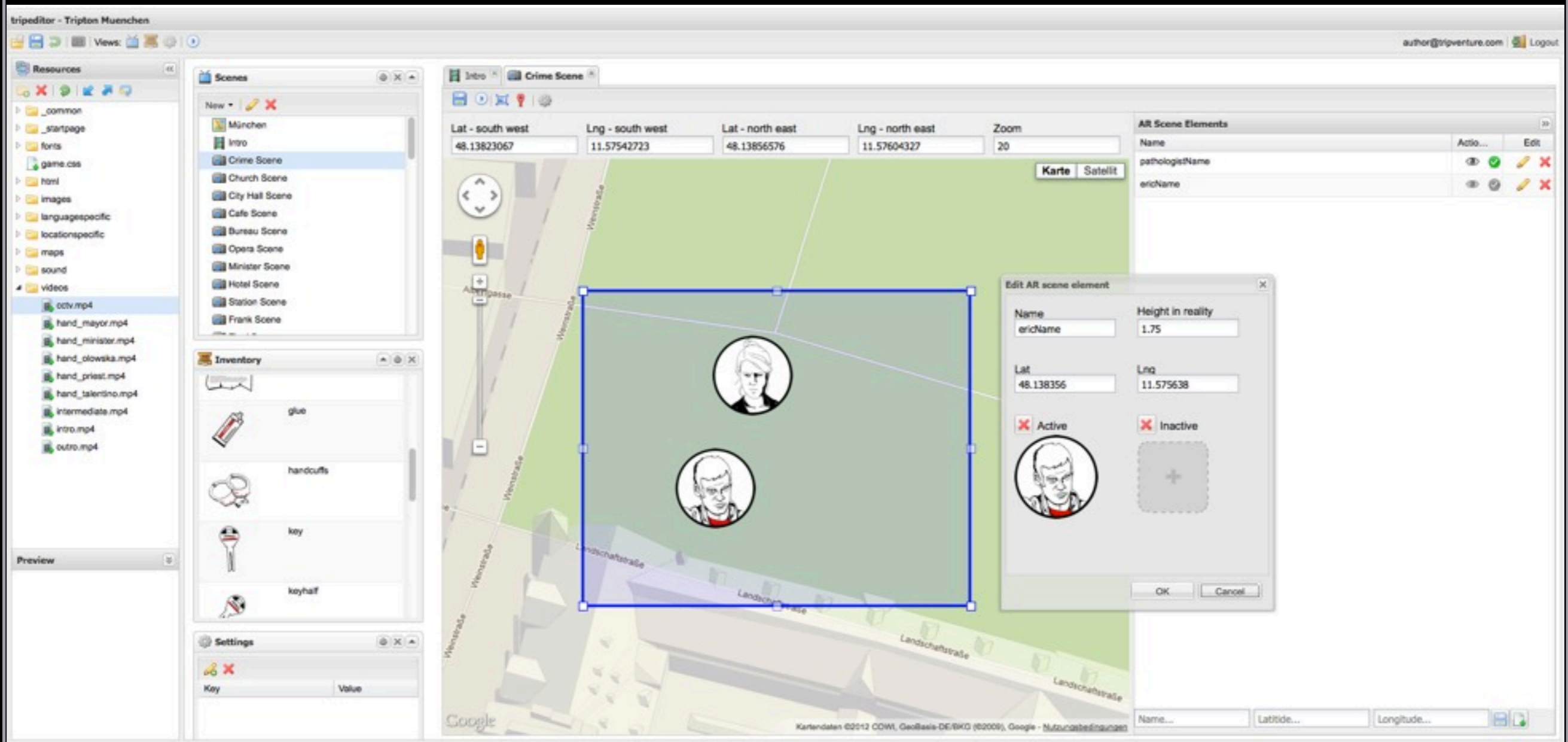
Map Scene Elements

Name	Actions & Condi...	Edit	Dist prev.	Dist total
erichName			- / -	- / -
U Marienplatz			0m / 0min	0m / 0min
St. Peter			291m / 3min	291m / 3min
Neues Rathaus			67m / 0min	358m / 4min
Kuffler im Spatenhaus			319m / 3min	677m / 7min
Hofbräuhaus			380m / 4min	1057m / 12min
Teattheater			736m / 9min	1793m / 21min
Stadtmuseum			384m / 4min	2177m / 26min
Hotel Königshof			1001m / 13min	3178m / 39min
Hauptbahnhof			424m / 5min	3602m / 45min
Justizpalast			538m / 6min	4140m / 51min

St. Peter 48.136485 11.575458

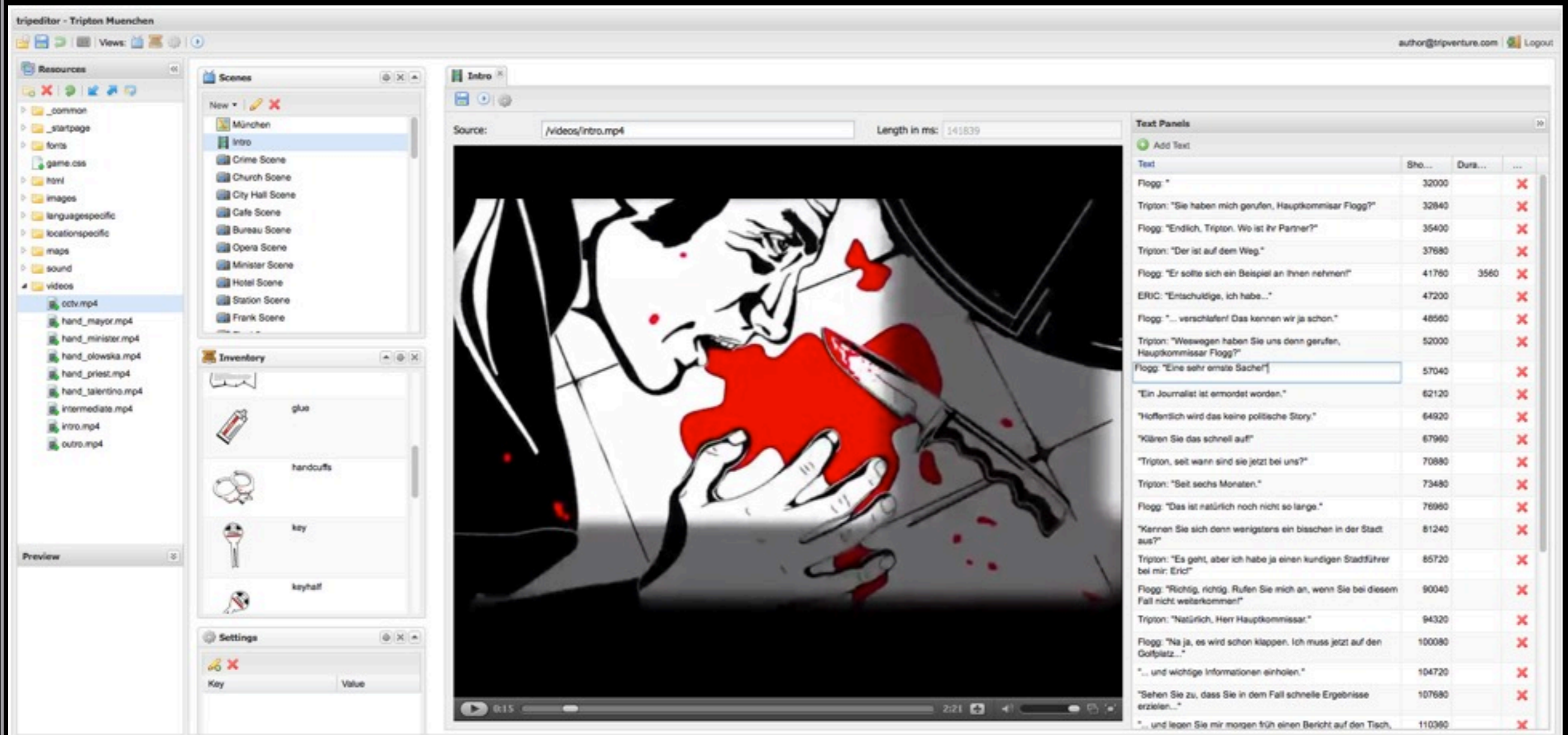
# TRIPVENTURE TRIPEDITOR

## POI ASSET AUSWAHL



# TRIPVENTURE TRIPEDITOR

## DYNAMISCHE KARTENANSICHT



# TRIPVENTURE TRIPEDITOR

## DIALOG- UND ANIMATIONSBEARBEITUNG

**Was ist der Raum?**

**Was ist der Spielrahmen?**

**Wie viele Spieler?**

**Idee / Genre / Spielmechanik / Story**

**Verbindung reale Umgebung -Spiel?**

**Interaktion / Kommunikation?**

**Wie hoch ist die Ortsgenauigkeit?**

**(Prototyp-) Plattform**

**Location Provider**

**Internetverbindung / Vernetzung?**

**Prototyp bauen! Minimalversion programmieren.**

**Rausgehen, Testen. Iterieren...**

**Die angemessene Engine für das Projekt wählen.**

ansb b arworld reise One small step for ... Androideroids: Gran...


Wired News Twitter / D... foursquare Double Rainbo... foursquare NASA - Expedi... foursquare :: ... +

twitter Login Join Twitter!

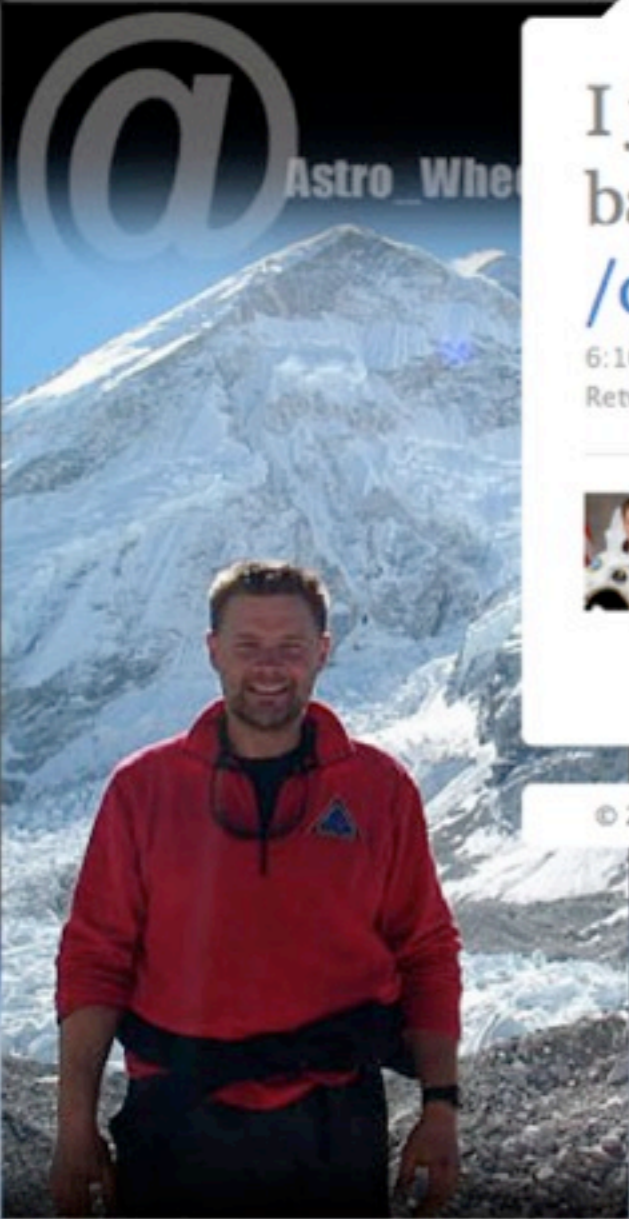
@ Astro\_Wheelock

I just unlocked the "NASA Explorer" badge on @foursquare! <http://4sq.com/dseNyI>


6:10 PM Oct 22nd via foursquare  
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 **Astro\_Wheels**  
Douglas H. Wheelock

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**Douglas H. Wheelock (Colonel, USA)**  
NASA Astronaut



„NO LIMITS“

ERSTER EXTRATERRESTRISCHER CHECK-IN BEI FOURSQUARE (22.10.2010)

# Danke

Sot P.

[zugangerschwernis@yahoo.com](mailto:zugangerschwernis@yahoo.com)



FOTO: THOMAS BONTE

**Und....**

**Gamedesign Workshop:** wir entwickeln Ideen und Prototypen für Location Based Games / Street Games auf dem Papier

**Tidy City Workshop:** ein bestehendes, einfaches Spiel mit Authoringtools, mit dem man die Stadt verrätseln kann (Android)

**Geolua:** Authoring-Umgebung (basiert auf Lua) für Location based Multiplayergames - with a little help of Dividium

**Hallenbau A:** Ein Location-based Audio-Feature vom Projekt M.I.R. - Mobile Interface Radio der hfg  
Geocachen gehen

**Location Based Games selber programmieren:** Hier kann ich Input zu Phonegap (HTML5) und Android SDK (Java) geben, zwischendurch Tutorials veranstalten und Hilfestellung leisten.

**Street Games:** Wer analog spielen möchte: wir können bestehende ortsspezifische Spiele spielen, testen oder selbst welche entwickeln.

## Erwähnte Spiele

Foursquare, <https://foursquare.com/>  
Gowalla (heute: Facebook), <http://gowalla.com/>

Geocaching  
<http://www.geocaching.com/>  
<http://www.opencaching.com/>  
<http://www.ftfgeocacher.com/>  
<http://en.wikipedia.org/wiki/Letterboxing>

Geobound, <http://www.geobound.de>

Mr. X Mobile, <http://qeevee.com/>

Insomnia, <http://www.insomnia.hs-bremen.de/>

GPS Mission  
<http://gpsmission.com/>

Can You See me Now?,  
[http://www.blasttheory.co.uk/bt/work\\_cysmn.html](http://www.blasttheory.co.uk/bt/work_cysmn.html)

Tidy City  
<http://totem.fit.fraunhofer.de/tidycity>  
<http://www.totem-games.org/>

Parallel Kingdom  
<http://www.parallelkingdom.com/>

MyTown,  
<http://www.booyah.com/games>

Street Games  
<http://invisibleplayground.com/>

Immopoly  
<http://immopoly.org/>

Triangler,  
[http://www.tno.nl/content.cfm?context=thema&content=inno\\_case&laag1=897&laag2=920&item\\_id=197&Taal=2](http://www.tno.nl/content.cfm?context=thema&content=inno_case&laag1=897&laag2=920&item_id=197&Taal=2)  
<http://www.slideshare.net/Frankwatching/triangler>

Urban Defender,  
<http://iad.projects.zhdk.ch/physicalcomputing/seminare/embodied-interaction-hs-2009/projektgruppen/nino-dondi-philipp/>

AR Quake,  
<http://wearables.unisa.edu.au/projects/arquake/>

RjDj,  
<http://rjdj.me/>

Inspector Tripton  
<http://www.tripventure.net>, <http://www.inspectortripton.com/>

## Weitere Spiele

SVNGR, <http://www.scvngr.com/>

The Hidden Park  
<http://www.thehiddenpark.com/>

Shadow Cities  
<http://www.shadowcities.com/>

Battleship Google Earth  
<http://www.nearfuturelaboratory.com/2006/07/15/battleship-google-earth/>

Flatmates, (noch nicht veröffentlicht)  
<http://flaregames.com/game/flatmates/>

Flag Hunt  
[http://www.taz.fi/TAZ\\_1B\\_en.html](http://www.taz.fi/TAZ_1B_en.html)

# Referenzen

**Sämtliche Bild- und Markenrechte liegen bei den genannten Autoren, Firmen bzw. Institutionen.**

**Huizinga, Johan. Homo Ludens. Beacon Press. Boston. 1955.**

**Foursquare, Gowalla, SCVNGR**

**Geocaching, Copyright Matt Hagen. Used with permission from Groundspeak Inc.**

**Geobound, Geobound, Video: Spiegel Online**

**Mr. X Mobile, Abbildungen: Deutsche Telekom, Video: AndroidPIT**

**Insomnia, Gangs of Bremen, Prof. Barbara Grüter, Universität Bremen**

**GPS Mission, Orbster**

**Dark Orbit Ground Forces, Bigpoint / Orbster**

**Can You See Me Now?, Blast Theory (auch: Titelfolie und Eingangsvideo)**

**Tidy City, Michael Straeubig, Abbildungen: Fraunhofer FITParallel Kingdom, PerBlue**

**MyTown, Booyah**

**Love at First Sight & Tiny Urban Game, Invisible Playground**

**Immopoly, Kraut sourcing UG**

**Triangler, TNO**

**Urban Defender, Zurich University of Arts**

**ARQuake Prof. Bruce Thomas, (University of South Australia)**

**RjDj, Reality Jockey / Ohr, CC-BY: L. Chittka, Brockmann, M. Komorniczak**

**Inspector Tripton / tripengine, Sprylab Technologies**

**Flatmates, Flaregames**

**Weltkugel, Abbildung: Nasa**

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